

Reply to Office Action dated July 12, 2007

**REMARKS**

Claims 1-6, 9-15, 18-19, 21-26, 28 and 30 are pending in this application. By this Amendment, claims 1, 6, 11, 18-19, 21 and 23 are amended and claims 7-8, 16-17, 27, 29 and 31 are canceled without prejudice or disclaimer. Various amendments are made for clarity and are unrelated to issues of patentability.

Entry of the amendments is proper under 37 C.F.R. §1.116 because the amendments: (1) place the application in condition for allowance; (2) do not raise any new issues requiring further search and/or consideration; and/or (3) place the application in better form for appeal by materially reducing the number of issues on appeal (should an appeal be necessary). More specifically, independent claims 1, 11 and 21 are amended to include features of dependent claims 29, 31 and 27, respectively. The other amendments are merely for clarity. Thus, no new issues are raised. The amendments also materially reduce the issues for appeal. Entry is thus proper under 37 C.F.R. §1.116.

The Office Action rejects claim 19 under 35 U.S.C. §112, first paragraph, and rejects claims 18 and 23 under 35 U.S.C. §112, second paragraph. It is respectfully submitted that the above amendments to claims 18, 19 and 23 obviate the grounds for the rejections. Claims 18 and 23 are amended based on suggestions in the Office Action. Withdrawal of the rejections under 35 U.S.C. §112 is respectfully requested.

The Office Action rejects claims 1-3, 6-17, 19 and 21-22) under 35 U.S.C. §103(a) over U.S. Patent Publication 2001/0004257 to Nitta et al. (hereafter Nitta) in view of U.S. Patent Publication 2004/0008176 to Nuimura. The Office Action also rejects claims 4-5, 18 and 23-25

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under 35 U.S.C. §103(a) over Nitta in view of Nuimura and further in view of U.S. Patent 5,977,934 to Wada et al. (hereafter Wada). Still further, the Office Actions rejects claims 26-31 under 35 U.S.C. §103(a) over Nitta, Nuimura and further in view of newly-cited U.S. Patent Publication 2002/0080091 to Acharya et al. (hereafter Acharya). The rejections are respectfully traversed with respect to the pending claims.

Independent claim 1 recites identifying an LCD frame frequency recorded in extended display identification data (EDID) of a memory provided in an LCD, and deriving a PWM frequency of an inverter adapted to control a brightness of the LCD responsive to the identified LCD frame frequency, wherein the EDID includes an average frame frequency, and the PWM frequency is derived based on the average frame frequency. Independent claim 1 further recites driving the LCD in accordance with the derived PWM frequency of the inverter.

The applied references do not teach or suggest at least these features of independent claim 1 (including features previously recited in dependent claim 29). The Office Action (on pages 15-16) states that Nitta and Nuimura do not teach controlling the PWM frequency based on an average frame frequency. The Office Action then states that paragraph [36] of applicant's own specification state that LCD frame frequencies may be "alternately" expressed by an average frame frequency. The Office Action also states that the missing features would have been an obvious matter of design choice. Applicant respectfully disagrees.

The Office Action expressly states on page 16 that Nitta, Nuimura and Acharya do not teach controlling a PWM frequency based on an average frame frequency. Then the Office Action states, based on a statement in applicant's own specification, that the claimed feature

would have been a design choice. Applicant respectfully submits that the Office Action's analysis is based on impermissible hindsight as the Office Action uses applicant's own specification in order to allegedly provide the claimed features. The Office Action has not provided any prior art reference teaching or suggesting that the EDID includes an average frame frequency and the PWM frequency is derived based on the average frame frequency. The rejection should be withdrawn at least for this reason.

Additionally, in accordance with M.P.E.P. §2143, the Office Action fails to make a *prima facie* case of obviousness since there must be some teaching in the prior art references of the claimed features. The Office Action has not provided any prior art reference to show this feature and therefore has not made a *prima facie* case of obviousness. The rejection should be withdrawn at least for this reason.

The Office Action (previously on page 15) states that Acharya discloses specific features in paragraph [0086]. However, the cited paragraph merely states that EDID may be stored in a display device and include characteristics such as a vendor name, serial number and frequency range. There is no suggestion how these features teach or suggest that the EDID includes an average frame frequency and the PWM frequency is derived based on an average frame frequency. At best, Acharya merely discloses a frequency range. There is no suggestion in Acharya (and/or Nitta and Nuimura) for deriving a PWM frequency of an inverter adapted to control brightness of the LCD based on an average frame frequency in an EDID. Even if the Office Action picks-and-chooses features from separate references, there still is no teaching for these features.

Still further, the Office Action's statement that this claimed feature is an obvious design choice is improper. That is, in order to properly assert that a claimed feature would have been a design choice, the Office Action must show (a) the features from the time the invention was made, and (b) there exists some teaching or suggestion in the art that would lead one of ordinary skill in the art to modify the reference to include the features. See *In re Chu*, 36 USPQ2d 1089, 1095 (Fed. Cir. 1995). The Office Action has failed to satisfy this test. Thus, the Office Action fails to show that the claimed features would have been an obvious design choice.

Applicant further asserts that merely because applicant's own specification uses the word "alternatively," there is no suggestion that the features would have been a matter of design choice. Rather, the use of the word "alternatively" may imply different embodiments in accordance with applicant's own specification. There is no basis that the word "alternatively" implies that one feature is obvious from another feature. The Office Action relies on applicant's own specification to make the rejection and therefore relies on impermissible hindsight. The rejection should be withdrawn at least for these reasons.

For at least these reasons, Nitta, Nuimura and Acharya do not teach or suggest all the features of independent claim 1. Wada does not teach or suggest the missing features. Thus, independent claim 1 defines patentable subject matter.

Independent claim 11 recites a memory recorded with extended display identification data (EDID) for an LCD, the memory provided in a lamp of the LCD or in the LCD. Independent claim 11 also recites an inverter that supplies a voltage to the LCD, and control means for controlling a PWM frequency of the inverter in accordance with an LCD frame frequency

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corresponding to information in the EDID. Independent claim 11 further recites that the EDID includes an average frame frequency for the LCD, and the control means controls the PWM frequency based on the average frame frequency.

For at least similar reasons as set forth above, the applied references do not teach or suggest all the features of independent claim 11. That is, Nitta, Nuimura and Acharya do not teach or suggest that the EDID includes an average frame frequency for the LCD, and the control means controls the PWM frequency based on the average frame frequency. Thus, independent claim 11 defines patentable subject matter.

Independent claim 21 recites a memory recorded with extended display identification data (EDID) for a liquid crystal display (LCD) of the display. Independent claim 23 also recites an inverter that supplies a voltage to the LCD, and a controller coupled to the main processor that controls a pulse width modulated (PWM) frequency of the inverter in accordance with an LCD frame frequency included in the EDID, wherein the EDID includes an average frame frequency for the LCD, and the controller controls the PWM frequency based on the average frame frequency.

For at least similar reasons as set forth above, the applied references do not teach or suggest all the features of independent claim 21. That is, Nitta, Nuimura and Acharya do not teach or suggest that wherein the EDID includes an average frame frequency for the LCD, and the controller controls the PWM frequency based on the average frame frequency. Thus, independent claim 21 defines patentable subject matter.

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For at least the reasons set forth above, each of independent claims 1, 11 and 21 defines patentable subject matter. Each of the dependent claims depends from one of the independent claims and therefore defines patentable subject matter at least for this reason. In addition, the dependent claims recite features that further and independently distinguish over the applied references.

### **CONCLUSION**

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of claims 1-6, 9-15, 18-19, 21-26, 28 and 30 are earnestly solicited. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,  
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